

Appl. No. : 10/074,564
Filed : February 11, 2002

REMARKS

The specification has been amended as set forth above to rewrite the title and abstract, and to replace the previously recited attorney docket nos. with the serial numbers of the corresponding patent applications. The change to the abstract is supported in the specification as-filed at paragraph [0036]. Claim 51 has been amended to add a period at the end of the claim. These amendments do not narrow the scope of the claims and do not introduce new matter.

Specific changes to the specification and the amended claims are shown on a separate set of pages attached hereto and entitled VERSION WITH MARKINGS TO SHOW CHANGES MADE, which follows the signature page of this Amendment. On this set of pages, the insertions are underlined while **[deletions are bracketed and bolded]**.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

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Dated: 4/9/02

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE TITLE:

THIN FILMS AND METHOD OF MAKING THEM [USING TRISILANE]

IN THE ABSTRACT:

Thin, smooth silicon-containing films are prepared by deposition methods that utilize [trisilane as a silicon source] a silicon-containing precursor. In preferred embodiments, the methods result in Si-containing films that are continuous and have a thickness of about 150 Å or less, a surface roughness of about 5 Å rms or less, and a thickness non-uniformity of about 20% or less. Preferred silicon-containing films display a high degree of compositional uniformity when doped or alloyed with other elements. Preferred deposition methods provide improved manufacturing efficiency and can be used to make various useful structures such as wetting layers, HSG silicon, quantum dots, dielectric layers, anti-reflective coatings (ARC's), gate electrodes and diffusion sources.

IN THE SPECIFICATION:

[0001] This application claims priority to U.S. Provisional Application No. 60/268,337, filed February 12, 2001; U.S. Provisional Application No. 60/279,256, filed March 27, 2001; U.S. Provisional Application No. 60/311,609, filed August 9, 2001; U.S. Provisional Application No. 60/323,649, filed September 19, 2001; U.S. Provisional Application No. 60/332,696, filed November 13, 2001; U.S. Provisional Application No. 60/333,724, filed November 28, 2001; and U.S. Provisional Application No. 60/340,454, filed December 7, 2001; all of which are hereby incorporated by reference in their entireties. This application is related to, and incorporates by reference in their entireties, co-owned and co-pending U.S. Patent Application Serial Numbers: 10/074,563; 10/074,149; 10/074,722; 10/074,633; and 10/074,534, all of which were filed on February 11, 2002.

IN THE CLAIMS:

51. (Amended) An integrated circuit comprising a continuous amorphous Si-containing film having a thickness that is 15 Å or greater and that is 150 Å or less, a surface area

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of about one square micron or greater, and a thickness non-uniformity of about 10% or less for a mean film thickness in the range of 100 Å to 150 Å, a thickness non-uniformity of about 15% or less for a mean film thickness in the range of 50 Å to 99 Å, and a thickness non-uniformity of about 20% or less for a mean film thickness of less than 50 Å.